

SOLAR FLAIR: AN AMPED-UP GARAGE   THE FANS GO WILD ABOUT AN ATHLETIC NEW ADDITION   TALL CORN: FARMING GOES URBAN  
PUBLIC WORKS THAT WORK   BACK FROM THE LAB: THE RESULTS ARE POSITIVE   TRASH TALK: RECYCLING GETS SCHOOLED  
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# iaarchitect

THE OFFICIAL MAGAZINE OF AIA IOWA

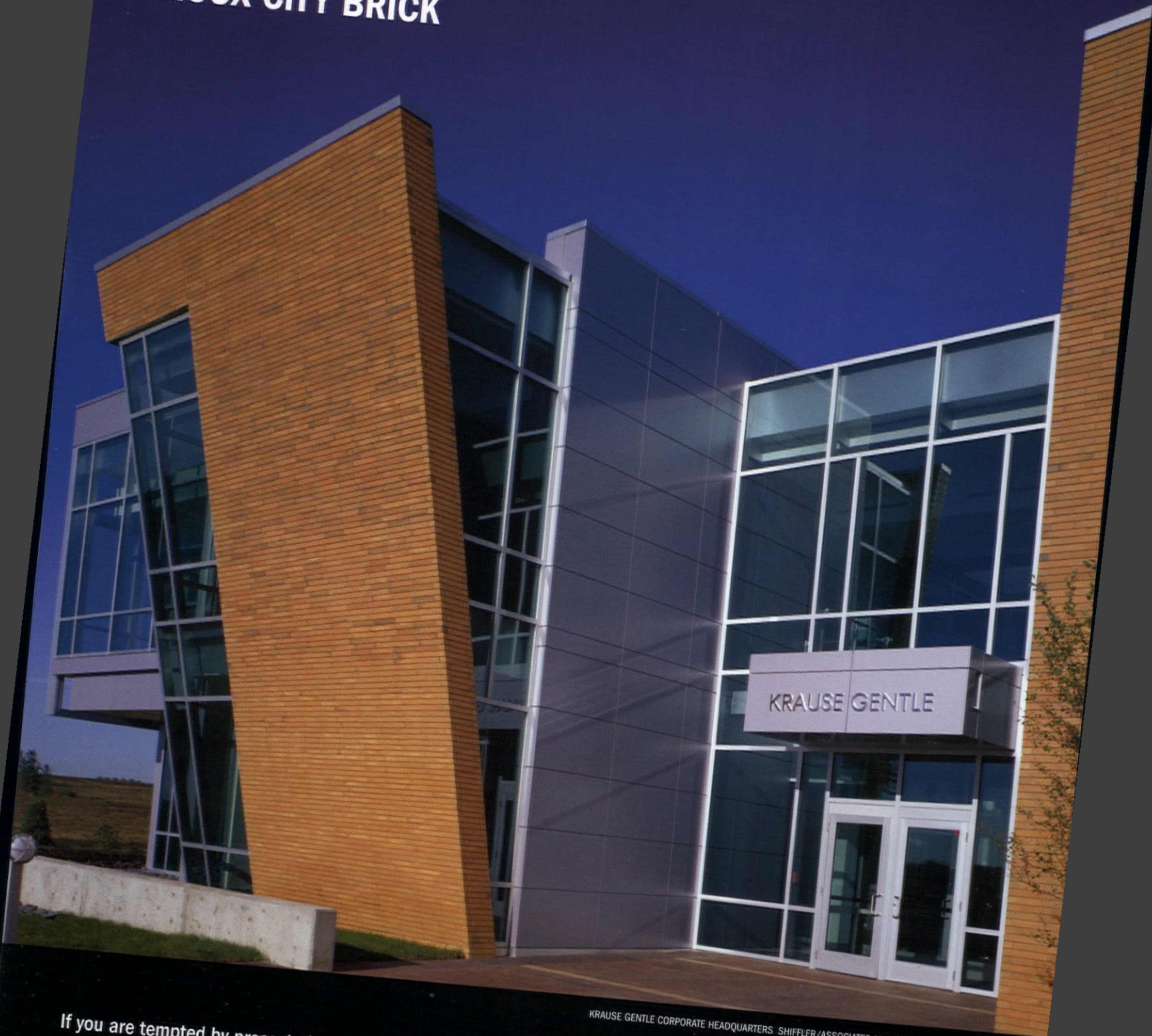


## *Green Issue*

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# editor's letter



## Welcome!

Mr. Fedrizzi said those words at the 2006 Greenbuild conference, which brought together the American Institute of Architects; U.S. Green Building Council; American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE); and Architecture 2030. In an unprecedented showing of solidarity, the leaders of these organizations adopted the 2030 Challenge, calling for all new buildings and renovations to reduce fossil fuel consumption by 50 percent immediately, culminating in all projects being carbon neutral by 2030. Based on the research of Architecture 2030, our built environment is responsible for nearly half of America's energy consumption (49 percent) and greenhouse gas emissions (46.9 percent), with transportation and industry nearly splitting the remainder. Reduction in emissions is eminent. The built environment is the sector that will have the largest impact in reducing humankind's contribution.

The daylight-flooded work environments, amped-up multimodal transit facility, urban farm and two public works case studies featured in this issue demonstrate that our future isn't grim. The owners and occupants of these projects demanded higher standards from their design and construction professionals. Our architects prove to be up to the challenge and are ingraining these principles into the next generation.

During this election season, Mike Tidwell said, "the presidential candidates decided not to speak about climate, but climate change has decided to speak to them." Our thoughts are with those impacted by super-storm Sandy after she ravaged the East Coast. The lesson I take from her is, no matter who won the election, we can all agree that building smarter makes our environment healthier and more resilient.

Eliminating the built environment's negative contribution to climate change is not just a strategic priority, it's our collective responsibility to generations to come.

—Rick Fedrizzi, founding chairman of the U.S. Green Building Council

**Brad Davison-Riphey, AIA**  
Editor, Iowa Architect

## iaarchitect

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A night view of an innovative recycling education center. *Lead by Example*, p. 38.



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## NOT YOUR PARENTS' THERMOSTAT

WORDS: BRENT HOFFMAN

Most people don't think about their unassuming beige thermostat, but for a small, insignificant device, it controls close to half of the energy usage in the average American home. In a recent visit to my neighborhood hardware store, I quickly realized the slim selection of these temperature control devices. Many are unattractive and confusing to use, while others are expensive with very few modern features. The average individual never fully grasps how to fully program a thermostat, which leads to many homeowners with programmable thermostats not programming them at all.

And since thermostats have gone more than 30 years without any serious innovation or reinvention, they are due for an overhaul.

So ... who said today's thermostat needs to be boring and static? The Nest Learning Thermostat, invented by Apple iPod's original product manager Tony Fadell, is an excellent case study in making a small device not only look good, but also educating the user about their current energy consumption. The creator of Nest has put sexy and sleek into home heating and cooling—no easy task!

Unlike traditional programmable thermostats, which require the user to input various temperatures, days and times, the Nest unit learns your living patterns and climate habits, sensing whether you're home or away, to manage your energy use. Programming is a matter of adjusting a dial.



The Nest thermostat is a small gesture in design and ingenuity that maximizes your dollar at home.

Monitoring the Nest thermostat on the road, in your office or on the couch and making adjustments in real-time has never been so easy. All you need is a smartphone and an Internet connection. **la**





## PROGRESSIONS

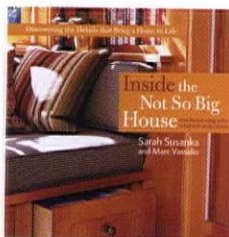
WORDS: ADAM AALGAARD, ALEX MICHL

An architectural light installation designed by two graduating architecture students at Iowa State University illuminated and questioned the presence of light in a normally dark public space.

The primary light structures extended across the central campus lawn, between Curtiss Hall, the towering Campanile and Beardshear Hall. Installed in eight hours by a volunteer crew of 10 students and two faculty, the project beamed for three days and three nights over the 2012 ISU graduation weekend. Composed of 52 reused fluorescent light bulbs and measuring more than 140 feet in length, "Progressions" was a temporary activation and illumination of an otherwise darkened area of the open campus lawn. "Progressions" quickly became a night destination, drawing the intrigued passerby to and

through its illuminated passage, curiously terminating with a single white box. The box, an inhabitable camera obscura, displayed on its interior another presentation of the lit structures outside. The camera obscura, which inverts and projects light through an aperture much like a theater projector, articulates with sharp precision the sensitivity of sight relative to the overwhelming emanating light installation. "Progressions" and its complementary camera obscura made, for at least three nights, a lit theater for the inquisitive and an expressive processional hall for the new graduates. **la**





**Inside the Not So Big House: Discovering the Details That Bring a Home to Life**

Sarah Susanka and Marc Vassallo. Newtown, CT: The Taunton Press, 2007. 210 pages. \$34.95.

## Detailed Design

WORDS: BILL DIKIS, FAIA

Sarah Susanka, FAIA, changed the face of residential design with the first of her 13 books, *The Not So Big House: A Blueprint for the Way We Really Live* (Taunton, 1998). After a career as a founding partner and award-winning architect in the Minneapolis design firm Mulfinger, Susanka, Mahady & Partners, Susanka left to pursue writing and speaking full-time. For *Inside the Not So Big House*, Susanka collaborates with Marc Vassallo, who is trained in both architecture and creative writing.

The *Not So Big* series focuses—in a most charming way—on craftsmanship and details, color and texture, scale and proportion. The basic principle of the series is quality over quantity, arguing that for a given cost, a smaller (but not small) house with extra care in design and craftsmanship is much more satisfying than a simply big house.

*Inside the Not So Big House* features homes designed by 23 architectural firms. The details referenced in the book are not merely furnishings and accessories added by interior designers or purchased by homeowners, but rather, permanent built-in design elements, born first in the minds of talented architects and then lovingly made by woodworkers, masons, metalworkers and other craftsmen.

In a point that may surprise readers, Susanka suggests that architects view design constraints—modest budgets, odd-shaped sites or zoning restrictions—as virtues because they help focus creative thought.

The inherent nature of materials plays a large role in deciding how to design and craft interesting and useful details. An important premise of good design is that materials should be allowed to be

themselves, and not pretend to be something else: Wood is wood, stone is stone, and we should take advantage of their individual characteristics.

It is often the case that wonderfully crafted details are so subtle in their contribution to the whole of a design that they go unnoticed until a visionary such as Susanka points them out. Yet, such details make places and experiences better and more delightful, without shouting for attention.

Details can be small or large, simple or complex. They can be design elements, such as window trim, door hardware or kitchen cabinets. But great details can also be as simple as harmonizing colors and textures. And details are not just the source of visual delight, but often improvements in function and convenience.

As Susanka's other books, *Inside the Not So Big House* includes extensive photographs that handsomely remind us how elegant details can bring vitality to architecture, whether a home or office, a school or city hall.

What message does this bring to someone about to embark on the building of a home? Employ a skilled architect and a talented craftsman, and together find a few places to pay extra attention to detail, thoughtful design and caring fabrication. It promises to be a rewarding investment. **in**

## Architecture by the Ounce

Eat | Drink | Architecture

WORDS: JOSH RIDGELY

**Downtown Des Moines has long served as a broad venue for architectural walking tours, highlighting some of the area's most historically and architecturally significant sites.**

This past spring however, the Iowa Architectural Foundation, partnering with local business owners and philanthropists from Full Court Press, put a twist on the traditional walking tour by mixing in food, drinks and some time spent inside select downtown establishments.



The journey kicked off with appetizers and drinks at El Bait Shop/High Life Lounge at noon, continued to Hessen Haus for another round of refreshments, then to Sbrocco for a light meal and wine before ending with dessert and a nightcap at the Royal Mile. Along the route, participants were guided along the southern downtown area and got a taste of the architecture cuisine. While inside each establishment, the groups were able to socialize, converse with tour volunteers and sample some favorite fare.

"This event embodies the spirit of each Full Court Press building," says Full Court Press partner Jeff Bruning. "We believe in preserving buildings to make way for modern businesses, and Eat|Drink|Architecture is a great way to showcase our efforts."

The sold-out event was such a success that the Iowa Architectural Foundation and Full Court Press have already begun planning another Eat|Drink|Architecture for spring 2013. **in**





# Matthew 25 Urban Farm

**WORDS:** CHAD HINMAN  
ASLA Iowa 2012 Community Stewardship  
Award Winner

As Cedar Rapids moves toward full post-flood recovery, open plots still dot the urban landscape. In 2010, a six-block area of land on the west side was purchased by the city and the existing flood-damaged houses were demolished.

Matthew 25, an area non-profit dedicated to helping residents reclaim their homes and neighborhoods, stepped in with an imaginative idea. With the help of community members, design professionals and Iowa State University design students, the collective transformed the scattered parcels into a working urban farm.

When Matthew 25 broached the idea of creating an urban farm in the Time Check neighborhood, they realized that the first hurdle would be leasing the land from the city and developing new zoning to allow urban farming within city boundaries. City officials recognized that the idea was a

positive way to encourage civic pride while long-term flood management strategies were being developed. They quickly signaled their support and a zoning amendment—the first of its kind in Iowa—was developed to allow agriculture within city limits.

With the red tape out of the way, Matthew 25 and the Northwest Neighborhood Association collected input from residents about their vision for the farm. The dialogue led to a series of clear project goals: provide fresh, affordable, local produce for residents using sustainable agriculture methods; self-sustain through the sale of community supported agriculture (CSA) shares; serve as a learning center for students; and create a sense of pride and identity in the neighborhood.



Student renderings showcase the Urban Farm Pavilion, a community gathering space. Roof forms are designed for installation of solar panels.

The plan uses a zoned approach, allowing the student design team opportunities to create individual and public spaces throughout the site.

These goals were given to Nadia Anderson, assistant professor of architecture at Iowa State University, who used them as starting points for the spring 2012 Bridge Studio. The program connects design students with real-world projects and involves graduate and undergraduate students in landscape architecture, architecture and interior design. The student team was challenged to address the project goals while creating a place that would be productive, educational and enjoyable. Professionals from OPN Architects, Fox Landscape Architecture and Anderson Bogert provided design critique and input on technical issues. The design was developed by the students through ongoing contact with the neighborhood association, city leaders and design professionals, ensuring community support for the initiative. The urban farm concept was presented by the students to the public in an open-house forum held at Matthew 25's Groundswell community gathering space in Cedar Rapids.

The result of this process was the Matthew 25 Urban Farm, two acres of productive green space in the heart of the city. The design divides the space into four zones. The outer ring is a low-intensity zone featuring an agro-forestry plot, low-maintenance plantings and perennials. Moving inward, a mild-intensity zone is defined by an orchard border, perennial berry plantings and drought-tolerant plantings. A moderate-intensity zone carves out space for a community garden, mobile greenhouse, raised beds and planters, and other species with regular irrigation needs and multiple harvest periods. In the center of the farm are community amenities such as a pavilion and play area, rainwater harvesting and storage, vertical agriculture, herbs, greens and other high-irrigation/high-maintenance plantings.

In addition to utilizing a space that would otherwise be empty and unused, the Matthew 25 Urban Farm provides an abundance of fresh fruit and vegetables to the community. It offers residents a place to gather and enjoy the outdoors and each other's company, as well as space for students to learn about sustainable agriculture and healthy food choices. With this project, local leaders re-imagined what an urban landscape can be, and in doing so, developed a creative model for cities that both sustains and enriches their communities. **16**



# Solar Electric Vehicle Charging Station

The University of Iowa, Iowa City

The University of Iowa is a distinguished leader in renewable energy strategies and sustainability practices. Its commitment to implementing progressive initiatives translated into an exploration of how solar energy may be utilized on campus. Among the first projects is the Solar Electric Vehicle Charging Station.

The solar station features the largest solar array in the state. The south-facing, 180-foot solar photovoltaic array generates an estimated 70,000 kWh of energy annually. It is projected to recharge up to 40 campus utility vehicles on a typical sunny day. That translates into an anticipated reduction in gasoline use of more than 15,000 gallons per year.

Charging an electric vehicle at the station takes about three hours and provides a 30-mile charge. It is used to charge 20 small utility vehicles for Facilities Management, as well as a number of electric vehicles

for departments across campus. One stall is used as an education resource and for experimental vehicle testing by the university's College of Engineering.

The surplus power generated by the station will be distributed back to the university power grid. The station supplies 120/240V electricity, and is equipped with a data network connection to the university Energy Control Center for continuous system tracking and analysis.

The station was designed by OPN Architects in association with GoSolar, one of Iowa's leading solar power specialists. [ia](#)





# profile

Person of  
Interest

WORDS: PAUL MANKINS, FAIA; PHILIP A. HODGIN, AIA

## Christos Saccopoulos

Mentor-Master-Magus

Christos Saccopoulos is the quintessential architect, teacher, leader and mentor. Retired from a life dedicated to

leading eager students into the world of design, he continues to practice what he has always taught.

Saccopoulos is a beloved mentor to a countless numbers of students and peers now practicing across the country. His love for integrated art and architecture might only be eclipsed by his love of the land and the boldly sustainable living environment now called home.

At the 1987 AIA Iowa convention, a design award was presented to "Summer House on the Island of Kythnos," designed by Saccopoulos for himself and his wife Kathy. At that time, Saccopoulos was a member of the faculty of the Department of Architecture at Iowa State University. The project was published in the annual awards issue of *Iowa Architect*. The concluding sentence of the article, authored by William Anderson (now FAIA) said, "It is Saccopoulos' plan to eventually build future additions, which would increase the complexity of form and space, elaborate on the definition of outdoor space, and create an idyllic compound that would eventually take on the character of a Cycladic village."

We are honored to revisit this compound 25 years later to understand its evolution and become reacquainted with a design project as timely today as it was then. It is fair to report the years on the western shores of Kythnos, Greece, have passed as gently as the soft sea breezes carrying the natural perfumes of yellow mimosa puffballs and native dried rosemary up the rugged inclines of the island. The mentor—now master—has achieved an intoxicating composition that is both authentic and inspiring.

The Saccopoulos compound initially consisted of two small polyhedral pavilions constructed of lightweight materials. "The polyhedral design, comprising relatively small panels, lent itself to lightweight







Any creative person breaking new ground who claims to have no doubts, however deeply buried, is either a fool or he is lying.

—Christos Saccopoulos

construction,” Saccopoulos explains. “The panels support one another, like a house of cards, with the triangles lending rigidity to the overall configuration.” More than merely a formal exercise, this design was necessitated by economy and the demands of the site. It is at once practical and beautiful—a result, Saccopoulos contends, of his education at Iowa State University and the tradition of pragmatism and applied science embodied in the Morrill Land Grant Act.

Twenty-five years later, two more pavilions have been added to the grounds; plant material has been introduced and nurtured to maturity; exterior circulation has been incorporated; outdoor sitting and work areas have been delimited; and hard edges, such

as walls and planters, have been erected to define a “civilized” settlement carved out of the wilderness of phrygana (thorny bushes). Saccopoulos was delighted when locals, unspoiled by architectural theory, recognized his intentions and dubbed the compound “Mikro Horio” or Small Village in Greek.

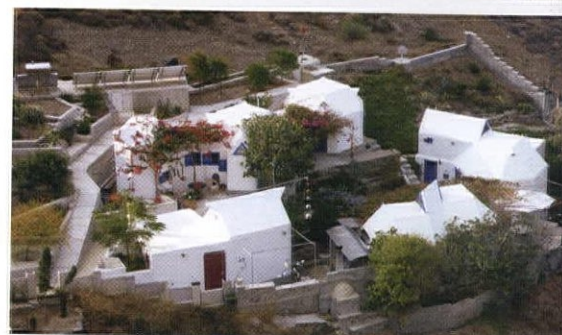
Externally, the four pavilions present a high level of complexity. There are no “walls” or “roofs” as such, but rather, panels placed in angular relationships with one another whose small dimensions, mostly about two meters on edge, lend intimate human scale to the whole. According to Saccopoulos, human scale and complexity are two of the most endearing qualities of Cycladic villages. That affinity, abstract as it may be, is what the local people recognized in naming the compound Small Village,” he says.

Underpinning the compound is a strong sustainable ethic rooted, like the architecture, in necessity rather than fashion. The new plant materials sustain two beehives, which the Saccopouloses harvest for honey. Further, with this additional plant material, composting became a practical means to augment the quality of the soil, as well as deal with kitchen and yard waste. Saccopoulos added a 40,000-gallon rainwater cistern, a gray water system and a photovoltaic array, which provides electrical

power to meet the compound’s modest needs. The result is a self-contained and thriving ecosystem completely off the grid—a set of “living buildings” that contribute to, rather than take from, their environment.

These artfully composed buildings appear as groundbreaking today as they did 25 years ago. They are clear and direct expressions—free of fashionable shapes or theoretical conceits. “Any creative person breaking new ground who claims to have no doubts, however deeply buried, is either a fool or he is lying. I’m no fool and no liar. I am grateful for the award received through the Iowa Chapter AIA Design Awards program 25 years ago, for this award has served to affirm the validity of my ideas and it encouraged me to pursue them to their present conclusion,” says Saccopoulos.

This timeless work transcends ephemeral trends. The mentor-turned-master might now be the magus ... Saccopoulos, magically treating his thankful guests to an unforgettable living experience in an intoxicating land connected forever to Iowa through artful sense of pragmatism, as well as magical memories, relationships and ever-engaging learning experiences. **in**



➤ Connect with Christos Saccopoulos at [sites.google.com/site/saccopoulossculpture](https://sites.google.com/site/saccopoulossculpture)





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## Cedar Rapids Public Library

Cedar Rapids / OPN Architects



The new 95,000-square-foot library is designed to be a vibrant, multipurpose destination and a space for the community to mix and collaborate. The design of the new library was driven by the desire to embrace openness and transparency, as well as foster public engagement with—and within—the space. With those principles in mind, the team looked for innovative ways to present views throughout the structure while visually connecting the streetscape with the functions occurring in the building. The resulting design reveals space and activity in the library, extending an open invitation to citizens to participate in the life of their community.

The building was designed to achieve LEED Platinum status and is on track to do so. Energy- and cost-saving features integrated into the building design include a green roof. It provides an attractive space for library patrons to gather while offering yet another set of views to the surrounding cityscape. Functionally, the roof will aid in storm water management while serving as an outdoor plaza to be used by visitors and private events. The space showcases the first publicly accessible green roof in Cedar Rapids, and will offer conservation-based educational opportunities for visitors.

## DART Central Station

Des Moines / substance



The new Des Moines Area Regional Transit (DART) Authority Central Station consolidates transfer functions on one site located on the southern edge of downtown Des Moines. The site was selected for its ability to create a southern gateway into downtown and to

develop a synergy with adjacent transit-oriented buildings and historical railroad depot, and to spur redevelopment in this area of the city. The facility provides transfer platforms for 15 vehicles, an interior waiting area, customer service offices, administrative offices and public meeting spaces. The project employs a number of sustainable strategies, including photovoltaic glass, geothermal heating, daylight harvesting and rainwater retention. As a result, it is anticipated that the building will achieve LEED Platinum certification.







Pomeroy Wind Farm - Pomeroy



Wells Fargo Financial NorthStar Building  
Headquarters - Des Moines



Tyson Events Center - Sioux City



University of Iowa Hancher  
Auditorium - Iowa City



Iowa State University  
Hach Hall Chemistry Building - Ames



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COMMERCIAL NEW CONSTRUCTION PROGRAM



# EDUCATED DECISIONS: ENERGY MODELING WITH THE CUSTOM PLUS TRACK

WORDS: KELLY ROBERSON

Ask any school administrator, and they'll likely confess to how tough it is to make design and operating system decisions when constructing new facilities. Fortunately, there's a program to help: the Custom Plus Track of the Commercial New Construction (CNC) program. The CNC program is funded through the energy efficiency programs of Alliant Energy, Black Hills Energy and MidAmerican Energy Company and is available to utility customers. The energy modeling analysis involved is well suited to the needs of public schools across Iowa.

## GETTING OFF ON THE RIGHT FOOT

To the untrained eye, it might seem that the energy demands of four schematics proposed for Dyersville Elementary by Neumann Monson Architects would have negligible differences. But, during the Custom Plus Track analysis, both owner and architect discovered how the subtleties of design choices would result in some energy demand surprises.

One of the mantras of the Custom Plus Track may as well be: The earlier, the better. The Custom Plus analysis options are best suited to projects starting in programming to early schematic design stages and typically take three to six weeks. "As soon as the design team has a pretty good idea of what the program is going to be, we can get involved," says Brian Wass, a CNC program administrator. Other times, energy efficiency is a concern, but designs have progressed too quickly for early analysis to have an impact. In these cases, other tracks of the CNC program may make more sense.

"Custom Plus looks at base design issues, and compares different ways of doing them, 10 to 15 percent of the total energy use can be affected by very early design decisions," says Wass. "Sometimes design is based on an assumption of time of day or year, but this analysis is over the continuum of all conditions. When you apply it over the course of a year, interesting things start to happen."

## SCHOOLS, CNC AND CUSTOM PLUS

In Iowa, 259 public and private school projects have enrolled in the CNC program. Modeling during Custom Plus analyzes massing, daylighting and HVAC. The HVAC system typically tends to have the biggest impact on the building, followed by daylighting and massing. Some will interact more heavily with one aspect—those with lots of windows, for example. And while Custom Plus is the newest CNC program track, its use, particularly among schools concerned about managing needs of their communities with restricted budgets, is growing. "The first step, a goal-setting tool, helps put into perspective what's important and what's not," says Wass.

### Did You Know?

- ▶ 186 Iowa school projects have completed the CNC program, for total construction incentives of \$17.4 million.
- ▶ The total annual energy savings for those 186 schools equal \$7.3 million—that's roughly 145 teachers' salaries.



#### PROJECT:

### West Dubuque Community School District Dyersville Elementary

Nearly every owner looks for ways to cut costs and make a structure's operation less of a drain on resources. West Dubuque Community School District knows that considering energy efficiency early in the process can have a measurable impact on those results. The district chose to

evaluate potential decisions by using the Custom Plus Track of the CNC program when they began the Dyersville Elementary project, led by Neumann Monson Architects.

Several massing schemes were studied for the Dyersville project, each with different daylighting potential. A T-shaped plan had a double-loaded corridor facing north, but orientation presented some concerns. Another plan gave the building a Y shape with different orientation, while a third had single-loaded corridors that held potential for passive solar heat gain. A modified version of the third plan with north-facing clerestories was also studied. "When it comes to massing, each option is simulated with a distributed and a central mechanical system, allowing the design team to see the impacts between two basic system types," says Wass. "If you have a spread-out building, a central system may use more energy than a distributed system, but if you have a compact massing solution, a central system might do better."

Energy modeling took into consideration differences in the building envelope combined with orientation and window area—and there ended up being some surprises, too. "Changing

the orientation from a north entrance T plan to a more east-facing Y plan created a significant change in energy use," says Wass.

In the end, the architects and district landed on a modified version of both—and still beat energy code requirements by 68 percent. "We walked through it step by step with the owners. They made decisions right alongside us and knew the paybacks of every selection," says Dave Zahradnik, AIA, principal with Neumann Monson. "For every client, we encourage them to go through the CNC program. It's a good program to set up strategies and bundle those to get a good result. It's easy for owners to understand, and gives them options."

### Potential Energy Savings

- ▶ \$67,700 per year
- ▶ 174 peak kilowatts of electrical demand
- ▶ 696,000 kWh of electrical consumption per year

These values represent 65 percent to 59 percent savings in these categories, when compared with minimum State Energy Code design standards.





PROJECT:

## Des Moines Public Schools Jackson Elementary Renovation and Addition

With ever-tightening municipal budgets, school districts have devoted increasing attention to monitoring and conserving the energy usage in their buildings. That's especially true of the biggest district in the State, the Des Moines Public Schools. "The energy modeling process has given us the ability to predict our energy usage prior to the building being constructed or renovated," says James Wilkerson, energy environmental and safety specialist with the district. "Budgets do not always allow us to get all the needs covered in the building at once. From the model, we are able to look at the projected energy savings and the cost to determine what makes the most financial sense."

That included the renovation and addition to Jackson Elementary. The district was reviewing several different HVAC systems. Based on the CNC program analysis, "we were able to cost-justify the additional expense of geothermal system," says Wilkerson.

Des Moines Public Schools has enrolled more than 40 projects in the program since it began in 1999. The CNC program has allowed the district to maximize its dollars—and its energy savings. At Jackson, that also included upgrades to the electrical system and insulated glass in the windows.

Information from the CNC modeling helps owners and design professionals to sort through what are often complex choices. "Every building is different and sometimes you are fairly limited on what you can do," says Vassil Petrov, AIA, with The Design Group: Architecture (formerly Baldwin White Architects). "Overall, this process is beneficial for the owner, and it's handled in a professional and streamlined manner. Energy modeling is a great tool."

### Potential Energy Savings

- ▶ \$23,000 per year
- ▶ 139 peak kilowatt electrical demand
- ▶ 780 natural gas therms
- ▶ 431,600 kWh of electrical consumption annually

These values represent 25 percent to 57 percent savings in these categories, when compared with minimum State Energy Code design standards.



PROJECT:

## Mount Ayr Community Schools Middle School Gym Addition

Every new building involves balance—between wants and needs, costs and budgets, even between the obvious and more subtle choices. Take energy efficiency: It isn't always a straightforward either/or, if/then. That was certainly the result of the CNC analysis of the Mount Ayr Middle School gymnasium addition, completed by FEH Associates, Inc.

During design and construction, the school district worked to identify cost- and energy-saving methods in both building and performance for the structure, which was built at the same time as a new elementary school a block away, says Tyler Riley, project manager with FEH. "Energy performance was a pretty big priority," says Riley.

The energy modeling affirmed choices, including a built-up exterior shell and additional roof and wall insulation. But one choice that the analysis suggested was a surprise. "Most schools usually make choices considering heat-dominance, not air-conditioning dominance, since that's our climate when they operate," says Riley. Modeling actually showed a black roof would be ideal—but contractor rebates meant that a white roof would have a shorter payback over a similar lifetime. "It really helped initiate discussions about balancing what made sense for the district," says Riley of the CNC program.

And it helped cement for Riley the value of energy modeling and analysis before construction. "We try to bring it to every project we can," he says. "It really helps offset a lot of the upfront costs and establish better energy performance criteria for the lifetime of the building."

### Potential Energy Savings

- ▶ \$19,200 per year
- ▶ 101 peak kilowatts of electrical demand
- ▶ 365,000 kWh of electrical consumption per year

These values represent 68 percent to 74 percent savings in these categories, when compared with minimum State Energy Code design standards.



PROJECT:

## Council Bluffs Community School District Hoover Elementary Renovation and Addition

The devil, as they say, is in the details, and that certainly applies to new construction and renovation. The thousands of little decisions that owners and design professionals make have a trickle-down effect that end up having a big impact on a building's performance and efficiency.

School districts haven't escaped that decision-making microscope. When it came time to renovate and add on to Hoover Elementary School in Council Bluffs, the district turned to BCDM Architects, who had worked with the district for nearly three decades. The project included two additions, one of which was to be used as a media center. "Beyond meeting the space requirements and addressing the aesthetics of the building, the school district wanted a building that was more energy-efficient. They wanted to maximize the energy efficiency by evaluating potential energy-saving strategies," says Cliff True, project manager for BCDM Architects. That included a thorough examination of the building envelope, HVAC systems and lighting design, as well as initial costs and a timeframe of payback.

Already familiar with the CNC program, BCDM used CNC energy modeling to evaluate choices during design on everything from sunshades to geothermal heat pump distribution systems. All in all, the CNC program offers energy design assistance for each of the stakeholders in facilities such as public schools. "I was able to more thoroughly evaluate the architectural elements that impact the energy efficiency of the building, namely building layout, the building envelope, daylighting and glazing types," says True. "The CNC program provides a thorough review of design considerations that can improve or augment the energy efficiency of a building."

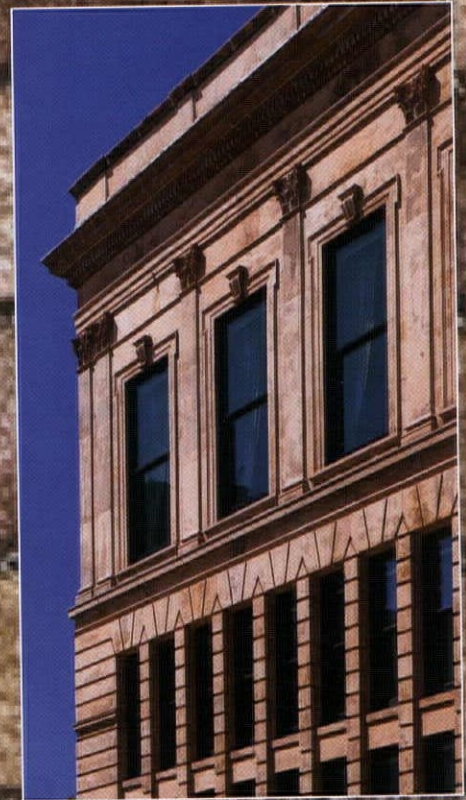
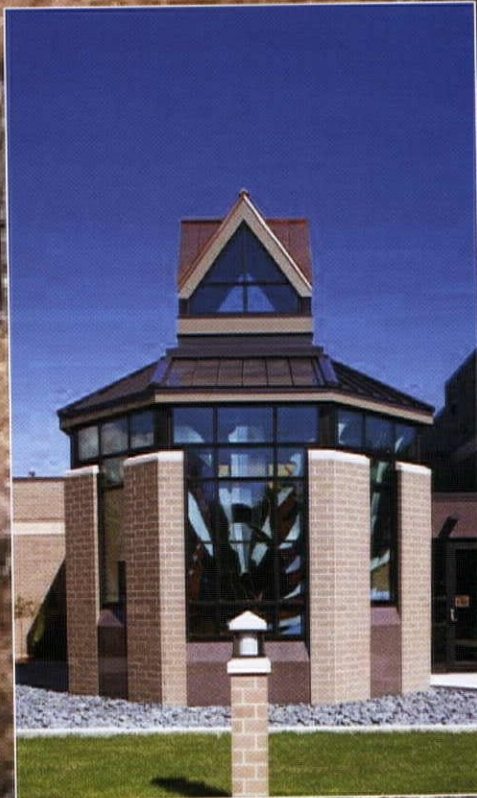
### Potential Energy Savings

- ▶ \$37,800 per year
- ▶ 145 peak kilowatts of electrical demand
- ▶ 750,000 kWh of electrical consumption per year

These values represent 48 percent to 62 percent savings in these categories, when compared with minimum State Energy Code design standards.



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University of Iowa College of Public Health

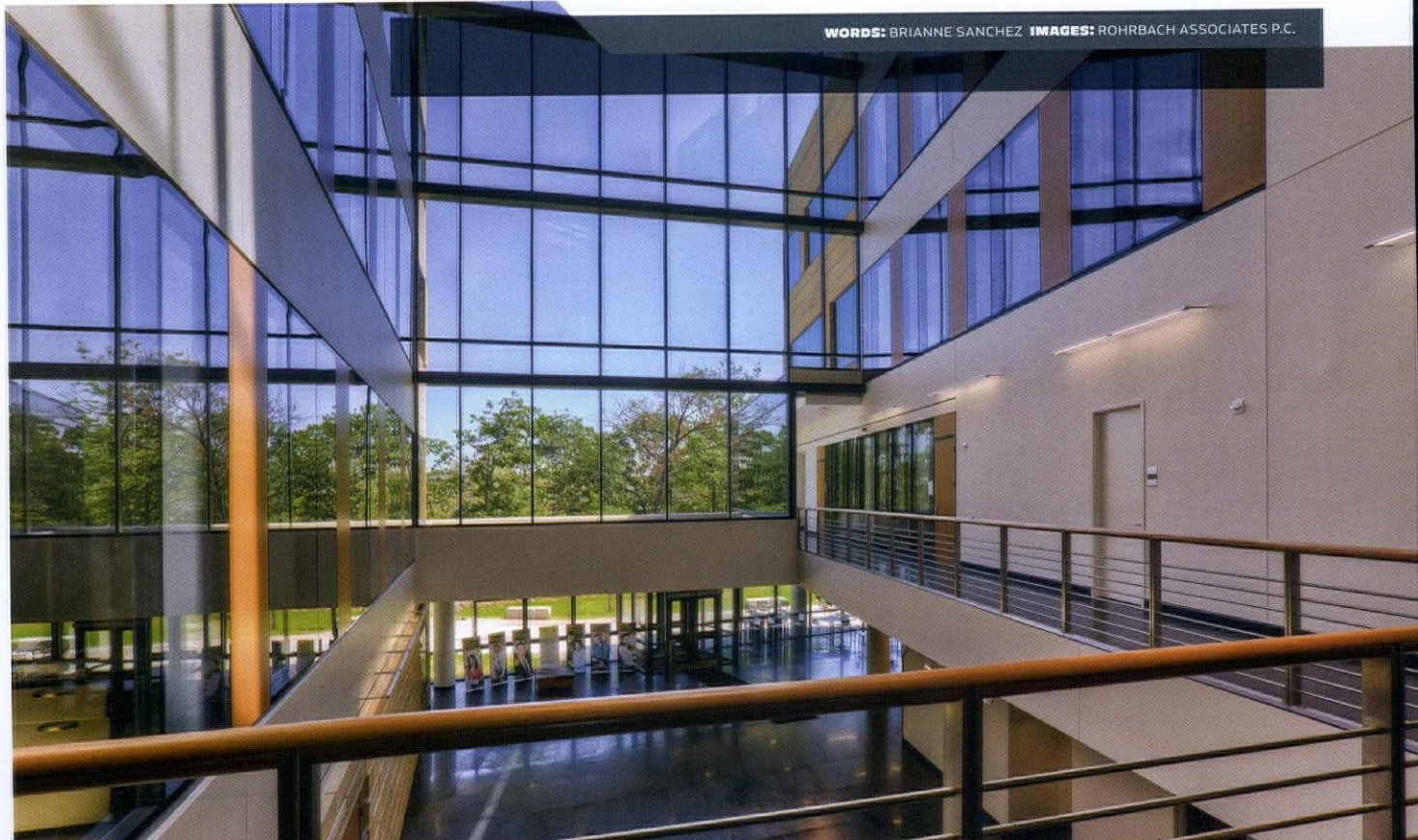
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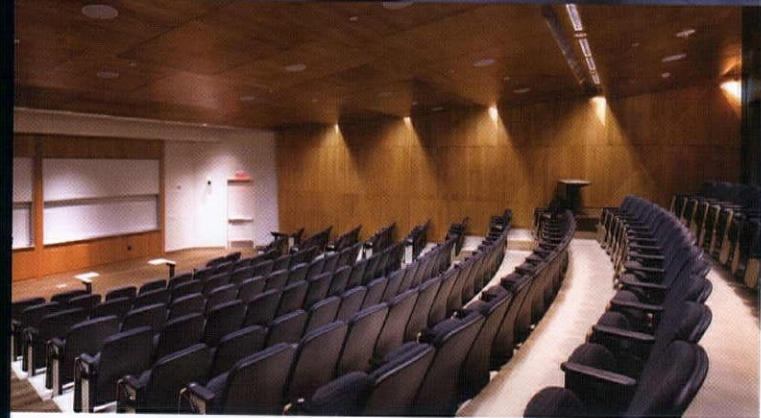
HEALTHY

# COLLABORATION



WORDS: BRIANNE SANCHEZ IMAGES: ROHRBACH ASSOCIATES P.C.





**Gathering Space** (clockwise from bottom left) The new University of Iowa College of Public Health features expected educational gathering spaces such as auditorium-style lecture halls, but also emphasizes more casual couch-filled lounges for smaller groups. Etched glass art of Iowans ties the academia back to the people who will be impacted by the research done here.

**Sustainability shines through** (opposite) Efficient glass utilizes natural light to brighten offices and a central atrium—and achieve LEED Gold certification. Sustainability is a high priority on a campus with a vision to attain net-negative energy growth by the year 2020.

**ARCHITECT:** ROHRBACH ASSOCIATES P.C. IN ASSOCIATION WITH PAYETTE  
**CONTRACTOR:** MCCOMAS LACINA CONSTRUCTION  
 SEE P. 48 FOR FULL PROJECT CREDITS

Before their building on the bluff, The University of Iowa College of Public Health was more of a concept than a community. Faculty, students and staff were sprawled across more than a dozen locations on the Iowa City campus. There wasn't much chance for the serendipitous cooperation that comes from researchers bumping into each other in hallways, and the lack of cohesion hampered those rah-rah feelings of belonging central to the higher education experience.

Then, with the help of the architects at Rohrbach Associates P.C. in association with Boston firm Payette Associates, a new College of Public Health identity was initiated, and on April 20, its showcase "home base" structure along River Street was dedicated.

"I always say that collaboration is in the DNA of public health," remarked Sue Curry, dean of The University of Iowa College of Public Health, at the dedication ceremony. "We only succeed by working across boundaries and ideas."

For Curry, the building itself "practically screams collaboration." Soaring public spaces, a central staircase and auditoriums for convening with partner organizations usher in new opportunities for meeting public health challenges.

Champions of the project knew that bringing the college under one roof—with room to grow—would benefit not only those who study and teach in the space, but the entire state.

Sustainability and growing social capital were priorities from the start in an initiative that required support from alumni, legislators, faculty and administrators alike.

A need for natural light informed a central design element that addresses both of these goals. The architects created a sunlight-filled, multistory atrium central to the

building. Not only do its skylights reduce the dependence on electricity, having meeting space in the middle encourages the exchange and flow of ideas.

"The space was meant to be interactive, collaborative and bring the whole college together," says Ken Berzinski, vice president and project lead at Rohrbach Associates P.C.

Berzinski says the building's location on the bluff meant there wasn't much opportunity to earn LEED certification credits for storm water management, so the team concentrated on energy performance. Reflective roofing, native plants that require minimal watering, waste reduction and recycling practices, and university-wide sustainability targets help steer the project toward its LEED Gold goal. The building is served by the university's central plant, which burns renewable oat hulls, reducing the campus dependence on coal. Windows platted with efficient glass allow sunshine to stream into office spaces, facilitating research that helps improve the health of citizens well beyond the building's walls.

Architecture and art inspire each other, too. The atrium showcases a commissioned installation featuring a dozen larger-than-life portraits of Iowans by photographer Peter Feldstein, renowned for *The Oxford Project*. Etched into glass, the images are a reminder that the space serves a larger population in a state striving to become recognized as among the healthiest in the nation. [in](#)





# CATCHING A RIDE

Substance Architecture Transforms More Than Transportation at UNI

WORDS: TOM LESLIE IMAGES: PAUL CROSBY





**ARCHITECT:** SUBSTANCE **CONTRACTOR:** HENKEL CONSTRUCTION SEE P. 48 FOR FULL PROJECT CREDITS

Parking garages rarely start with bursts of inspiration, and Substance partner Tim Hickman recalls that the genesis of the University of Northern Iowa Multimodal Transportation facility included a poor initial location choice and a limited set of goals for the project. The university's Panther Shuttle was underused because of too many inconvenient stops, and the planned location for a new, federally funded bus stop and related parking garage was on a remote part of campus.

**Added late in the process,** the garage's solar array has become its trademark, sheltering cars while feeding energy to neighboring residence halls.

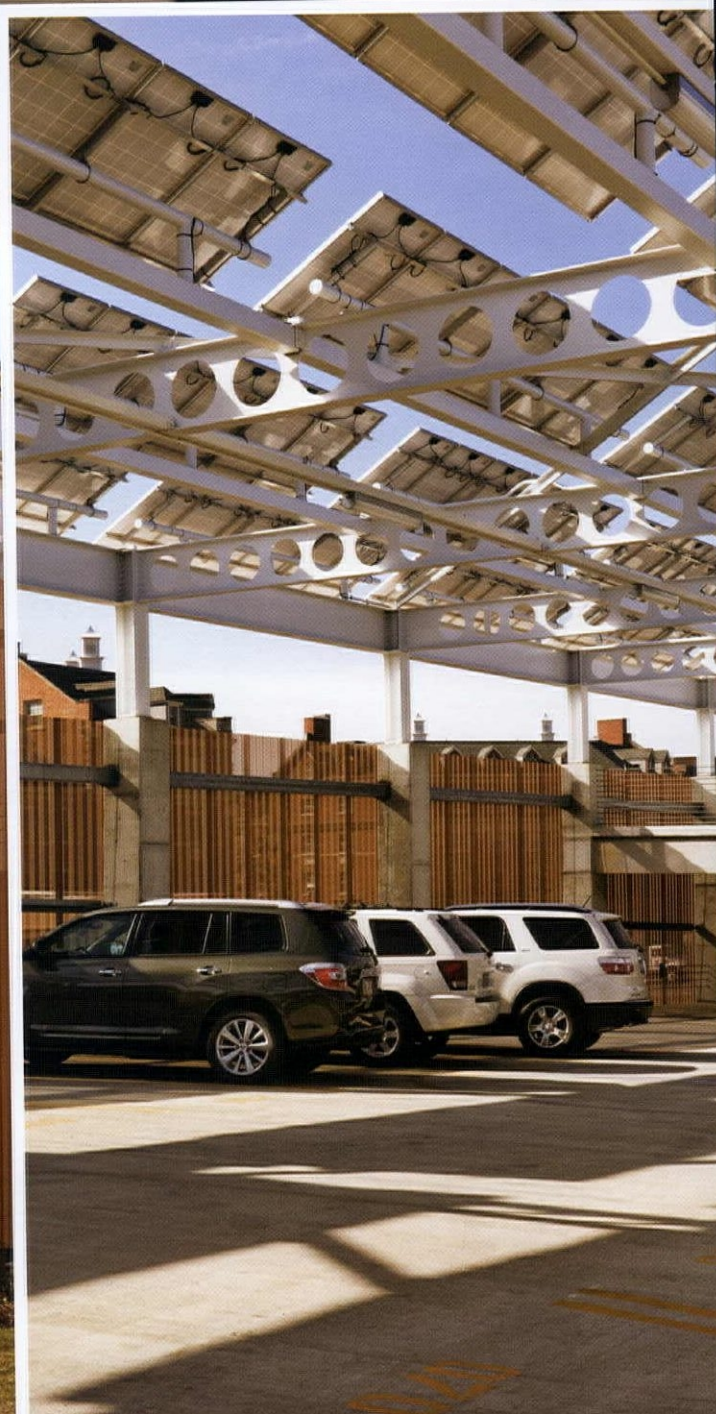




**The Multimodal Facility** is based on the simplest possible diagram, and its material palette and elevations are designed to quickly and elegantly convey its circulation to entering motorists and pedestrians.

**Perforated metal cladding** (bottom left) shows just enough of the parking ramps to indicate the building's major function, while a fortuitously sized set of columns are capped by the building's solar array.

**Shading from the metal panels** (bottom right) and the overhead solar array provide a comfortable outdoor environment year-round for drivers.





Good design, though, often involves figuring out what the real problem is, and both Substance and its client realized that a simple change of location to a more central, convenient site would increase awareness and promote bus usage. If bus routes made better stops through campus, more students would leave their cars at home. After negotiations with other campus stakeholders, the garage was moved to 23rd Street, much closer to the center of campus. Thus, the community decided that a combined parking and transit facility was in order.

Such a site, of course, carried with it heavy contextual baggage, and Substance was wary of prescriptive guidelines about how such a potentially dull structure could be made to fit in. "We tried to avoid the cliché of 'it's a campus building that had all its windows blown out,'" says Hickman. Instead, brick was used sparingly and in conjunction with a resolutely mechanical palette of white-painted steel and copper-tinted perforated aluminum panels. The planning reflected the utter simplicity of the program—a block of parking with attached stairs and cores—and its development reflected the need to make circulation completely apparent to both arriving visitors and regular users while relating to

surrounding 1920s campus buildings. "Too often, something that looks like a parking garage is perceived as a bad parking garage," notes Hickman, "but these can't look arcane to drivers. They need to have instantaneous legibility while still being a good neighbor."

The facility's neighborliness, in fact, extends in more tangible ways than initially planned. The project went on site in the midst of the 2008 financial crisis, and its federal sponsors encouraged the university to make full use of its funding as part of the subsequent government stimulus. Early in the project, Hickman recalls, there had been discussions about using the large flat area of the garage roof for photovoltaics, but this was dropped quickly due to cost concerns and the difficulty of providing usable power. "The biggest challenge is that if you look at energy production and mapping and energy use in a parking garage, they're not compatible," says Hickman. "You gain energy during the day, but nearly 100 percent of energy use in the building is nighttime lighting." The cost of storing this energy for use at night typically makes installations on garages prohibitively expensive, but a quirk in UNI's power grid meant that the garage was circuited with three adjacent residence halls that certainly could use daytime power. The garage still needs external power for its nighttime lighting, but over the course of a day, this consumption is balanced by its ability to feed power to its neighbors.

Architecturally, Hickman notes that the late inclusion of the photovoltaic array was cause for concern. "The question we wanted to avoid was whether the same architects did both the array and the building," he says. But the steelwork that the firm had designed as a counterpoint to the brick walls offered a clue. To make a prismatic volume from the ramping planes of the structure, Substance extended the concrete columns to a constant height, and this became the datum plane for the photovoltaic array—a fortunate coincidence that enabled the panels to be easily integrated into both the palette and the geometry of the garage.

The result is a building that plays a key role in the everyday experience of thousands of UNI students and staff, and that telegraphs its functions as a circulatory hub and a power station for its neighbors in an understated but legible way. UNI has emphasized its programs in sustainability in recent years, and the transformation of an elegant parking structure into a net-zero powerhouse is a powerful example that, because of its location, is front and center in the life of the university. **in**

||  
We tried to avoid the cliché of 'it's a campus building that had all its windows blown out'. —Tim Hickman, AIA  
||

At its entry, the UNI Multimodal Facility defers to the scale of the neighborhood while maintaining its simple material palette.

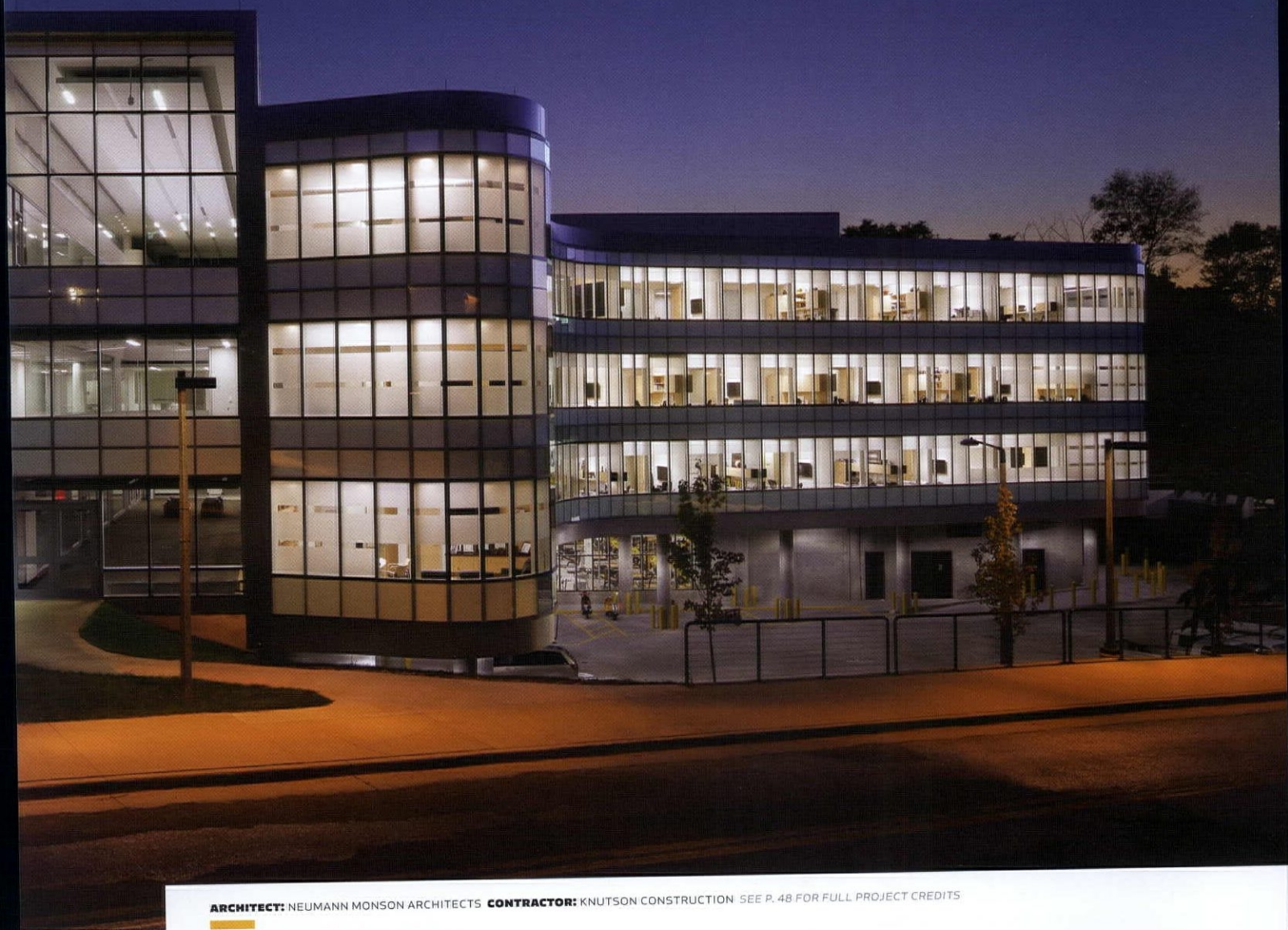




BUILDING

# character

NEUMANN MONSON UPDATES AN ICONIC HAWKEYE ATHLETICS LANDMARK  
AND FINDS THAT GREEN GOES WELL WITH BLACK AND GOLD.



ARCHITECT: NEUMANN MONSON ARCHITECTS CONTRACTOR: KNUTSON CONSTRUCTION SEE P. 48 FOR FULL PROJECT CREDITS

**Designing athletic buildings** requires the careful composition of different-sized building spaces needed to accommodate a diverse range of users and activities. The spaces must work just as well for thousands of fans on game days as it does for all of the athletes, trainers, coaches and administrators who make the games possible. These facilities are also symbolically important because, ultimately, the character of the building's design becomes a reflection of the teams and institutions it serves. Aptly for the 23 different teams and enthusiastic fans who call Carver-Hawkeye Arena home, Neumann Monson's addition is progressive, savvy and focused on building success.





In 1982, Carver's original award-winning designers, Caudill Rowlett Scott, sunk the complex into the ground, leaving a sparse but elegant view of the concourse and roof truss visible at the top of the hill. They hid the other support spaces to the north of the area by sinking three levels into the receding hillside. While the design was rightly lauded upon completion, the building's design provided limited daylight, restricted possible locations for additional practice and administrative spaces enjoyed by other competing schools, and didn't offer dedicated event space for clubs and boosters on the concourse.

Thirty years later, Neumann Monson was hired to design a 150,000-square-foot addition, consisting of relatively equal amounts of space for athletic teams, administration and the public, as well as to update the arena as needed. The design team cleverly connected the addition to the northwestern corner of Carver-Hawkeye. As a result, they placed large-volume, windowless practice gyms and a strength-training room into the hillside to the west; exposed a stacked, four-story "boomerang" of offices to the north (with soft light and great views); and created a new entrance from the western parking lot at grade that leads into a light-filled, multi-use space for meetings and events. Nearly 90,000 square feet of space inside the arena was renovated to create a richer fan experience above and better practice facilities below—and 90 percent of the existing facilities were reused in the final scheme.

Interestingly, this large addition maintains the same low profile, but creates a distinctly unique expression of concrete, glass and fritted glass. Tim Schroeder of Neumann Mø. describes it as the importance of "showing how two separate eras of building expressions complement each other." Embracing traditions of the past while preparing for the challenges of the future is more than just a way of thinking about the building's expression: It's the holistic design strategy for the building, and a clear reflection of the athletic department's values.

But this reflection is more than a matter of expression—it's an issue of operation as well. Many of the decisions related to the placement and articulation of building massing are inherently smart methods for reducing energy consumption while also improving experiential qualities of the space. Pending LEED Gold certification demonstrates the design team's and university's resolve to create a space that effectively uses its resources in a way that promotes the success of its occupants within a healthy environment—certainly a clear reflection of the same priorities found in the development of athletes.

Simply put, it's about building character. **la**

#### **The curving, glass-covered block**

(opposite) of new offices and meeting rooms looks out to the north and abuts the large light-filled central gathering spaces that run through the building.

**The simple and elegant** (above) forms and materials are seen throughout the remodel and addition.

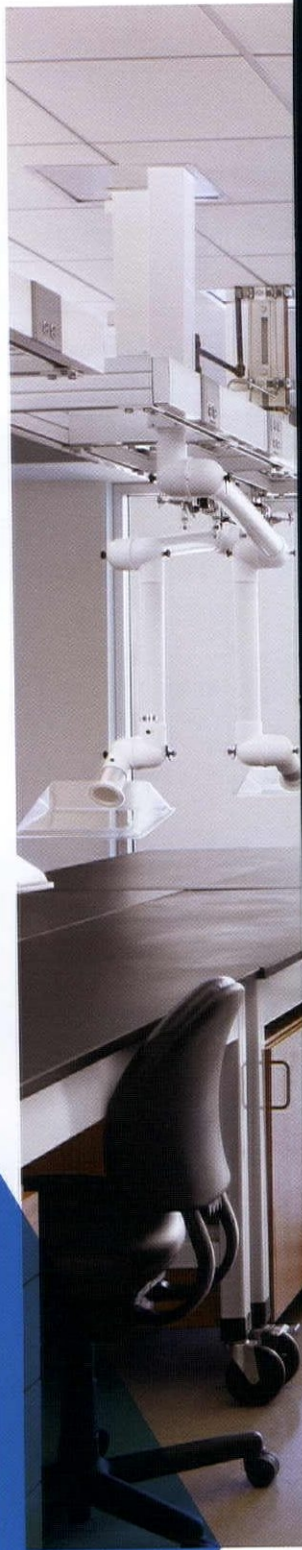
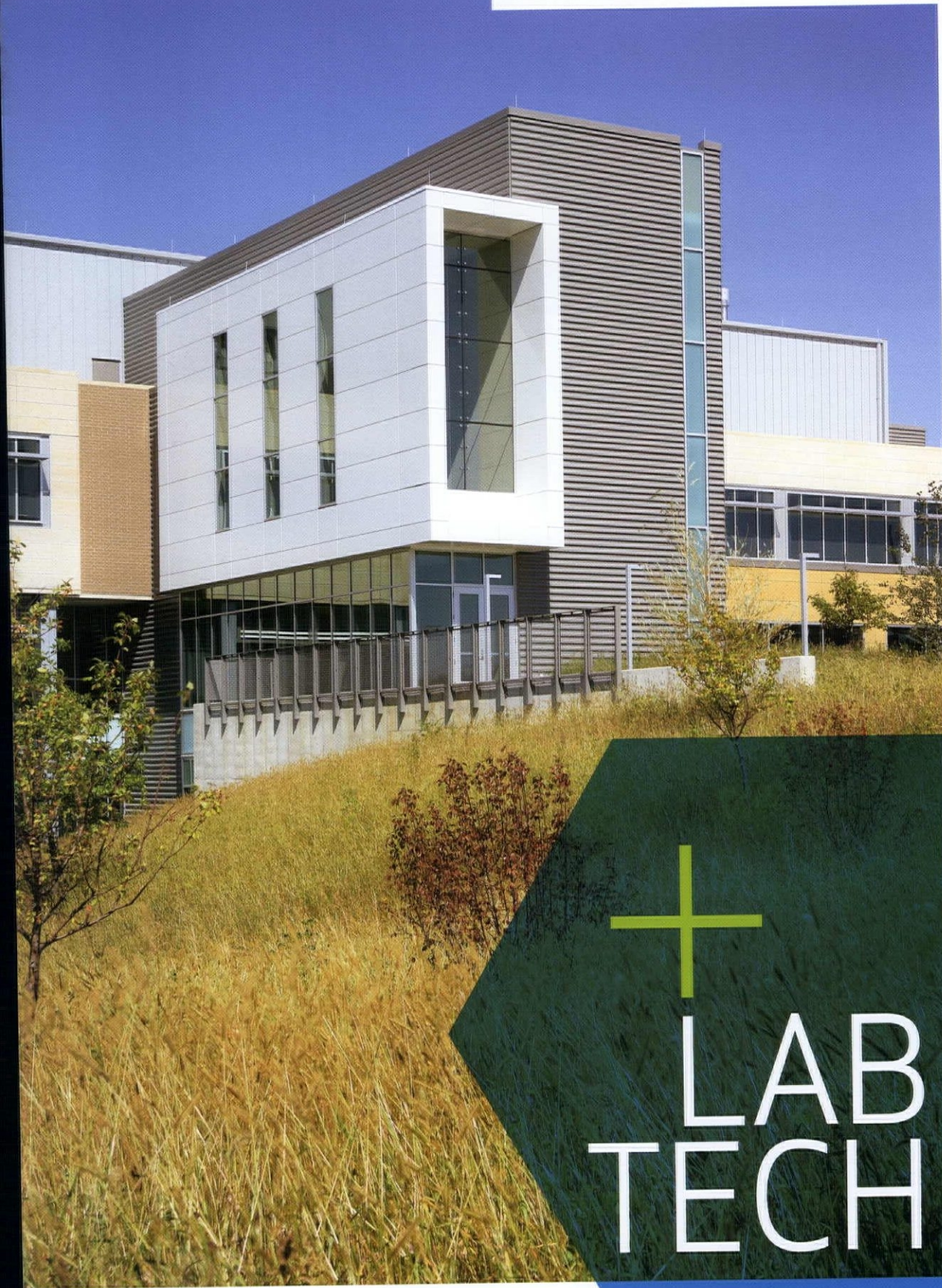
#### **The inclusion of a new gym** (below)

provides greater flexibility in scheduling practices and accommodates the needs of many different athletic teams.





WORDS: DAVID WHITEMYER IMAGES: WAYNE JOHNSON, MAIN STREET STUDIO



+  
LAB  
TECH





It's comical irony that for the last 40 years, the laboratory responsible for analyzing Iowa's environmental and public health had been located in a dimly lit, maze-like, asbestos-rich building originally constructed in 1917 as a tuberculosis sanatorium. It was the oldest state lab in the nation. And so, it made sense that the new laboratory should incorporate sustainable principles, and should focus on the well-being and comfort of its occupants.

The Des Moines office of OPN Architects began designing the new State Hygienic Laboratory (SHL) in 2005. Opened in spring 2010, the lab is located just across the street from the BioVentures Center, another OPN project. Constructed at different times and with different goals, the buildings' expressions are well coordinated, appearing as entry pillars to the University of Iowa's Oakdale Research Park in Coralville, just north of I-80.

OPN had been tasked with achieving LEED Silver certification for the building, but in the end it was awarded with LEED Gold. "There was a clear synergy between the lab's function and the health and safety of the people who work in it," says Aaron Twedt, project architect at OPN. "The purpose of the building is to protect public health." The SHL routinely tests samples of air, drinking water, wastewater, soil, sediment, industrial effluents and fish. It searches for and protects citizens from harmful contaminants and infectious diseases, and also responds to threats from possible bioterrorism.

**Floor-to-ceiling windows** (above) provide warmth, natural light and views to lab technicians.

**The laboratory's orthogonal, south-facing entry** (opposite) rises out of native wildflowers and prairie grasses.





**Warm furnishings** (top left) and open circulation are provided where staff test samples of air, water, soil and sediment.

**Ribbons of windows** (below) and earthy colors mesh with corrugated metal cladding and industrial-looking exhaust fans.

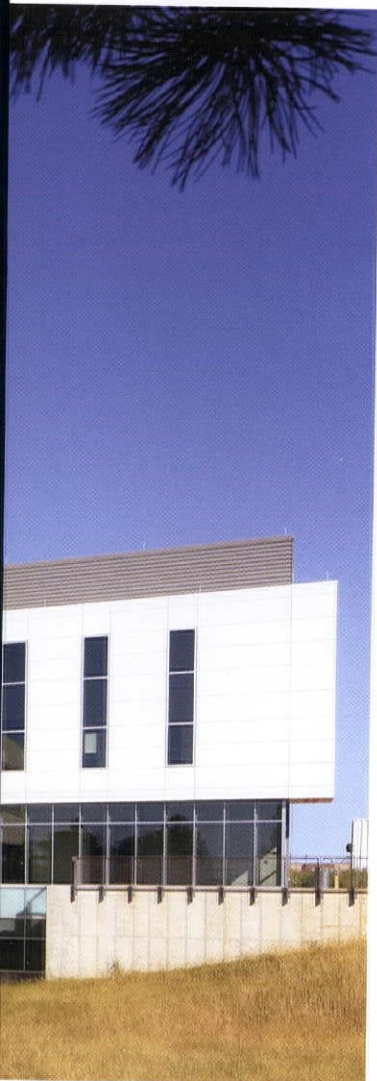
**The clearly defined lobby** (right) and assembly space penetrates through the building's north facade.







**ARCHITECT:** OPN ARCHITECTS **CONTRACTOR:** KNOTSON CONSTRUCTION  
SEE P. 48 FOR FULL PROJECT CREDITS



LEED certification certainly steered many of OPN's design decisions, but the firm was pushed even harder by following guidelines set forth by Labs21, a voluntary EPA-sponsored program dedicated to improving the energy efficiency and environmental performance of laboratories in the United States. The USGBC recognizes Labs21 and provides credit for following a few of its principles.

"We tried to maintain a scientific lab aesthetic, while introducing large glass openings to promote natural lighting for the offices," explains Twedt. The 114,000-square-foot building doesn't pretend to be anything other than what it is. Approaching from the south, toward the main entry, ribbons of windows and earthy colors mesh with corrugated metal cladding and a collection of futuristic-looking exhaust fans. "The fans were highlighted to illustrate the technical aspect of the building," Twedt says.

Laboratories have strict mechanical requirements for controlling airborne agents produced through testing and experiments, but OPN also considered the off-gassing of materials and the use of environmentally friendly cleaning products. In addition to the GREENGUARD-certified carpet, low-VOC paints and other common eco-friendly finishes, the lab's interior exhibits some unique materials. PaperStone, a 100-percent post-consumer recycled paper and resin material, was used for the countertop of the lobby's information desk, which is surrounded by Kirei Board, a product manufactured from reclaimed sorghum straw and formaldehyde-free adhesive. In fact, almost 9 percent of the total building materials used in the project was made of post-consumer content.

Twedt notes that both OPN and the client were interested in finding local suppliers for the lab's furnishings and construction materials. In the end, the percentage of regionally extracted and manufactured materials in the total project cost was about 21 percent and 23 percent, respectively. "Using regional materials really spoke about the function of the lab itself," says Twedt, which is about the vitality of Iowa and its communities. The building's office furniture was manufactured in Muscatine, much of the lab casework came from Wisconsin, and the stone along the north and south facades is Anamosa limestone.

Green principles and the health of the community don't stop at the door. Beyond the limestone walls and through the floor-to-ceiling windows, lab technicians and office workers are treated to panoramic views of native wildflowers and prairie grasses. The seed mix was based on the Hayden Prairie, a surviving parcel of indigenous landscape near the western border of Iowa. OPN more than doubled the square footage of the building in landscape preservation and replacement, which garnered the project another LEED credit in the Sustainable Sites category. "We also thought about how employees would commute to the building," says Twedt, explaining that the SHL parking lot has preferred spots for drivers of energy-efficient cars, carpools and motorcycles. And the building has shower facilities for those who ride their bikes.

The SHL facility practices what it preaches. The workers responsible for analyzing Iowa's health get to work in a healthy, green environment. In turn, OPN hosts "Green Day" each year, an internal design and sustainability conference that allows speakers, clients and contractors to discuss eco-friendly trends and practices. "The principles behind LEED are things that OPN has already been doing for a long time," says Twedt, proudly. Those principles are elegantly manifested in the lab's appearance, and more importantly, in its consideration of the comfort and well-being of its occupants. **in**



# THE ARCHITECTURE OF PUBLIC WORKS

WORDS: ASH LETTOW, AIA IMAGES: CAMERON CAMPBELL INTEGRATED STUDIO







**ARCHITECT:** INVISION

SEE P. 48 FOR FULL PROJECT CREDITS

The architecture of public works has shifted from ancient projects such as baths, aqueducts and theaters to the more recent condition of being embedded in the infrastructure of public works as manifest through roads, sewers and refuse collection, alongside private enterprises of power and communication. The recent completion of the Cedar Falls Public Works provokes a series of considerations related to this shift and the contemporary resurgence of an environmentally responsible approach to the built environment.

**Cedar Falls, like most communities, has undergone steady growth** over the past decades and as a result, the development and support of infrastructure has been expected to keep pace. However, this growth faces challenges from increasing natural disasters and shifting fiscal conditions. The floods of 2008 afforded the city the opportunity to use disaster recovery as means to promote a resilient approach to infrastructure and mitigate the effects of an economic downturn. The function and scope of a public works department typically grows ad hoc over time. As new infrastructures emerge and the expectations of citizens change, the role of public works adapts to these needs. Cedar Falls' public works were no different in this regard, as their functions and facilities were dispersed in separate buildings, with some located in flood-prone areas of the Cedar River.

Invision Architecture devised a master plan that consolidated facilities and relocated a majority of the crucial functions to a site out of the flood plain. This consolidation was a





**The public entry** (previous) provides a civic face to the necessary pragmatic functions beyond.

**The distinct functions** (above) of the program are reflected in the formal articulation and material deployment.

**Daylighting** (right) and durable materials provide functional space for department operations.

**Similar principles** (below) of daylighting with refined and durable materials are present in the office space as well.







long-term goal of the city but with the flood of 2008, the master plan was put into effect on an accelerated timetable. The floodwaters damaged the existing facilities, resulting in temporary relocation of the public works. A new site was selected based on the recommendations of the master plan, and from this vantage, four to five various building organizations were considered based on the departments' relationships to one another and the larger site.

The project attains the design intent of the architects while meeting the practical needs of the client. The assemblage of programmatic elements is deliberately present in the plan organization and formal presence of the building. The building operates along the programmatic spectrum of providing public access to the facility while accommodating the service needs of public works. The conflation of a civic face with the more utilitarian needs of high-bay garages presents distinct challenges to the plan, and as a result, a courtyard conceals the more pragmatic aspects of the program.

The deployment of a simple palate of materials further articulates this distinction. The use of limestone and glass cladding at the main entry—oriented toward the main road and public access to the north of the site—evokes the civic nature of the public face. High-bay service garages are exhibited by means of precast concrete and metal panels. The natural finishes of the materials are suitable in high-abuse environments and present a finished surface to the public.

One of the main goals outlined by the client was the need to better facilitate an economy of scale. Multipurpose spaces and the sharing of equipment was a desired outcome. The consolidation of departments also included providing space for seasonal workers who convene at the site for meetings but are deployed to work in the field. Another fiscal and environmentally responsible strategy was to house a majority of the city's equipment in order to shelter it from the elements and increase vehicle life spans. The formal articulation also impacts the day lighting and temperature control for the project. Clerestory windows illuminate

the high-bay spaces of the garages while the programmatic zones of the building allow a distinction between the tempered spaces for vehicle repair and storage from the conditioned spaces for office workers. The overall site plan allows for expansion of 50 percent to its current footprint, and this potential is furthered through the structural logic of the building. Precast panels at the end of the high-bay spaces can be removed and the building expanded without much disruption to facility operations. The same panels can be reused to complete the new addition.

Beyond the question of how does architecture house a department of public works, this project provokes larger considerations as to the shape of recovery and the resiliency of the built environment. The relationship of infrastructure to architecture is a crucial nexus for developing an environmentally responsible landscape. Municipalities are taking productive steps in this direction, and Cedar Falls is no exception. The City Council has prioritized LEED certification in all civic projects, and the new public works facility is the first to be constructed with these criteria. Currently, the project is in the process of obtaining LEED Silver certification. Other efforts include buyout programs for properties in floodplains and limiting redevelopment in those areas to facilities that can withstand the impact of a natural event. The prior site of the public works has been reutilized as a transfer facility and recycling station that would suffer minimal damage in another flood. The scale of the design process needs to shift from just the articulation and control of a building envelope to how the built environment is developed and maintained in a resilient and responsible manner. **in**

*The author would like to thank Brad Leeper and Tim Turnis of Invisian Architecture and Bruce Sorensen, Cedar Falls Public Works director, for their insight in the writing of this article.*



# LEAD BY EXAMPLE

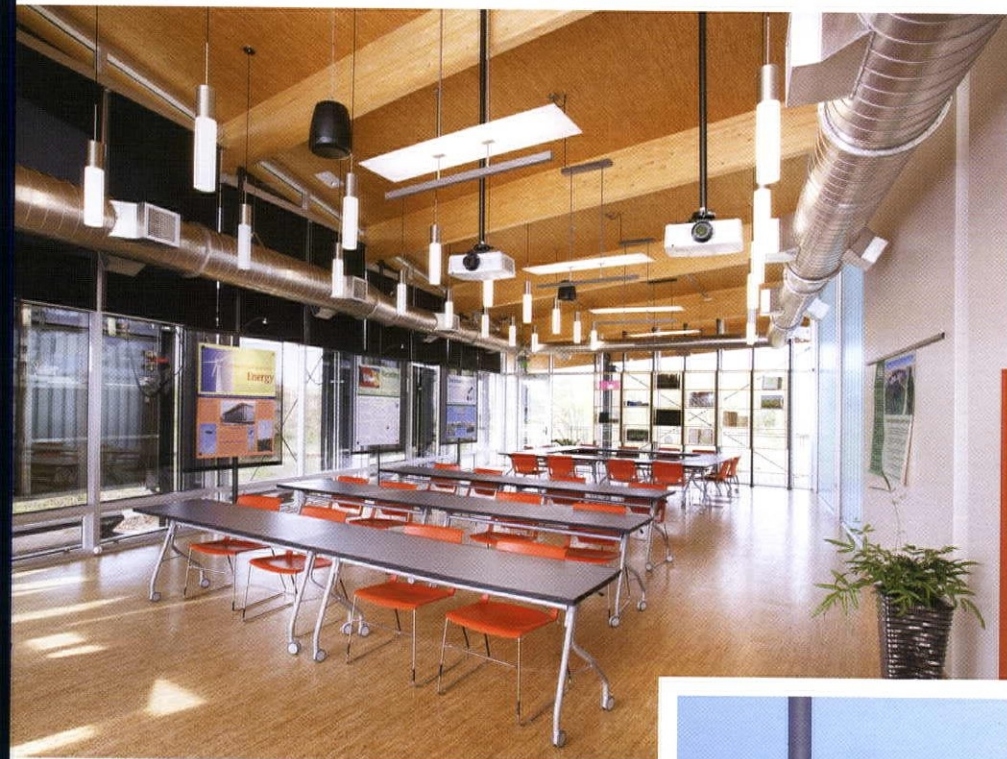
WORDS: KELLY ROBERSON IMAGES: AJ BROWN IMAGING



**ARCHITECT:** SHIVE-HATTERY  
**CONTRACTOR:** KNUTSON CONSTRUCTION  
SEE P. 48 FOR FULL PROJECT CREDITS

Ten years ago, "Paper or plastic?" was the measure of a person's or business's sustainability. Fortunately, much about sustainability has changed in the last decade, including design and architecture. Take, for example, the principles and products of eco-conscious architecture on display at the City of Iowa City East Side Recycling Center, designed by Shive-Hattery.





**Materials** (opposite) used in the East Side Recycling Center were anything but fussy—glass, concrete, steel. The building's profile resembles an updated vision of iconic rural buildings. Pulled open at night, sunshades are used during the day to control light.

**The building's classroom spaces** (left) have become a magnet for local events and groups. During the day, natural light is the focus, with large windows maximizing available light.

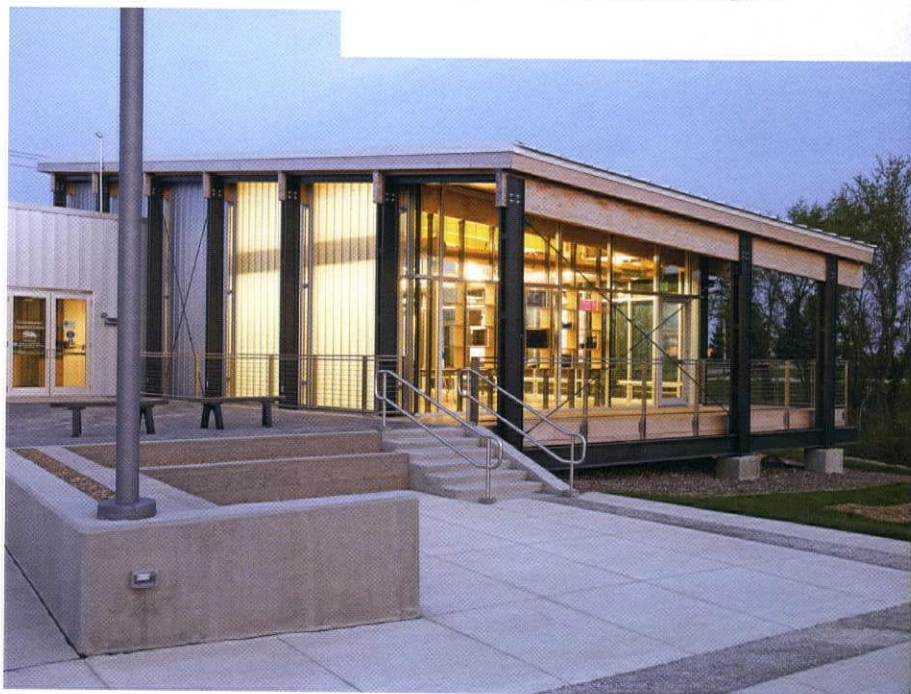
**Built without a basement**, (below) the new structure, placed on a slab, floats above the ground.

Conceived by the city as a way to create a focused recycling campus and combine scattered facilities, the East Side Recycling Center was initially designed in 2007—right before the devastating floods of 2008. “The city wanted to have some means to educate people on sustainability and recycling, and have this beautiful space that incorporated as many sustainable techniques as it could,” says Mark Seabold, AIA, project architect with Shive-Hattery.

High bid prices and flood recovery put the plans on hold until 2010; the project was dedicated on Earth Day 2012. The multi-building complex incorporates a number of efforts: a showcase education center, a salvage barn, a wood-chip and compost pick-up station, an electronic waste drop site and a Habitat for Humanity ReStore center. The project put sustainable ethos into high gear, starting with the site, a former brownfield area. “We started by demonstrating how you could clean up an area,” says Seabold, “as well as manage it with best practices for storm water. Those include bio-swailes and native plants, as well as pervious paving.”

The facility's focal point is the 2,200-square-foot education center, an elegant building of concrete, glass, wood and steel. Some of the sustainable features, such as expansive windows, solar-powered sunshades and green roof, are immediately evident, while others, including geothermal heating and cooling and structural insulated panels in floor and ceiling, are less so. Other design decisions, such as elevating the classroom off the ground to minimize the footprint, display the sustainable thoughtfulness from design all the way through construction. “The simplicity of the building was one of our goals,” says Seabold. “The city wanted to use it to teach about the environment as much as they are about recycling.”

That has certainly become the case, with the newly opened facility already host to a multitude of community meetings, many of them having nothing directly to do with recycling. “The whole campus has done so much for landfill diversion,” says Seabold. “And the education center is really doing its job of subtly teaching the public that sustainability can be a beautiful thing.” **la**





# DIAMOND OF THE PRAIRIE

**WORDS:** CAMILLE CAMPBELL-WOLFE **IMAGES:** CAMERON CAMPBELL INTEGRATED STUDIO







#### The new Diamond V headquarters

(opposite) in Cedar Rapids is a reflection of the company's identity—blending its ties to the land with its drive for technology.

The two-story glass lobby (left) welcomes visitors with a professional image and an abundance of natural light.

**ARCHITECT:** ASK STUDIO

**CONTRACTOR:** VENTOR SPOONER

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GLOBAL YET LOCAL. FAMILY-OWNED. HIGH-TECH. AND ENVIRONMENTALLY FRIENDLY. IT'S ALL PART OF DIAMOND V'S IDENTITY—AND IT SHOWS IN THE CEDAR RAPIDS COMPANY'S NEW HEADQUARTERS.

From the beginning, Diamond V had two main goals. "They wanted to create an image that spoke to both their local and regional relationships and to their global position in the marketplace," recalls architect Michael Kastner, AIA, LEED AP, of ASK Studio in Des Moines. "And they wanted to incorporate environmentally friendly technology where it made good economic sense."

At just over 15,500 square feet, the narrow building stretches east to west, taking maximum advantage of natural light. Banks of offices on the north and south sides flank a central service core with break rooms, printer rooms, storage and mechanicals. Every office has daylight, and oversized windows pull that light back into the open office areas.

"We really like the outdoor exposure this design provides," says Michael Goble, vice president of operations at Diamond V, a nutrition and health company serving the animal production industry. "We have a tremendous view of our surroundings, and the daylight creates a better work environment. In some areas, the employees leave the lights off because we have so much exterior light."

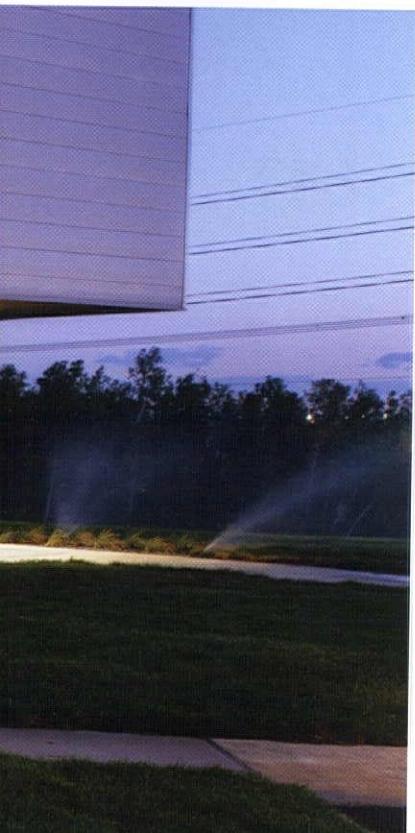
Environmentally friendly features include a geothermal heat pump system and energy-efficient T5 and LED lighting, all selected for their potential long-term savings. From recycled materials to insulation values to low-flow water fixtures, the design follows LEED guidelines, even though it didn't go through the certification process.

Aesthetically, the design plays off the steel, glass and red trim used in the plant—a nod to the Diamond V brand. "We picked up that palette of materials and gave it a more refined, elegant feel," explains Kastner. "Each facility has a distinct image, but they work together as a complex."

"We understand who our customers are," Goble adds. "We didn't want something that was too elaborate, but it had to be high-tech and professional."

The headquarters is set back from the road, close to the south manufacturing facility. A courtyard of green space connects the two facilities. This layout not only welcomes visitors, but also allows truck traffic to the plant.

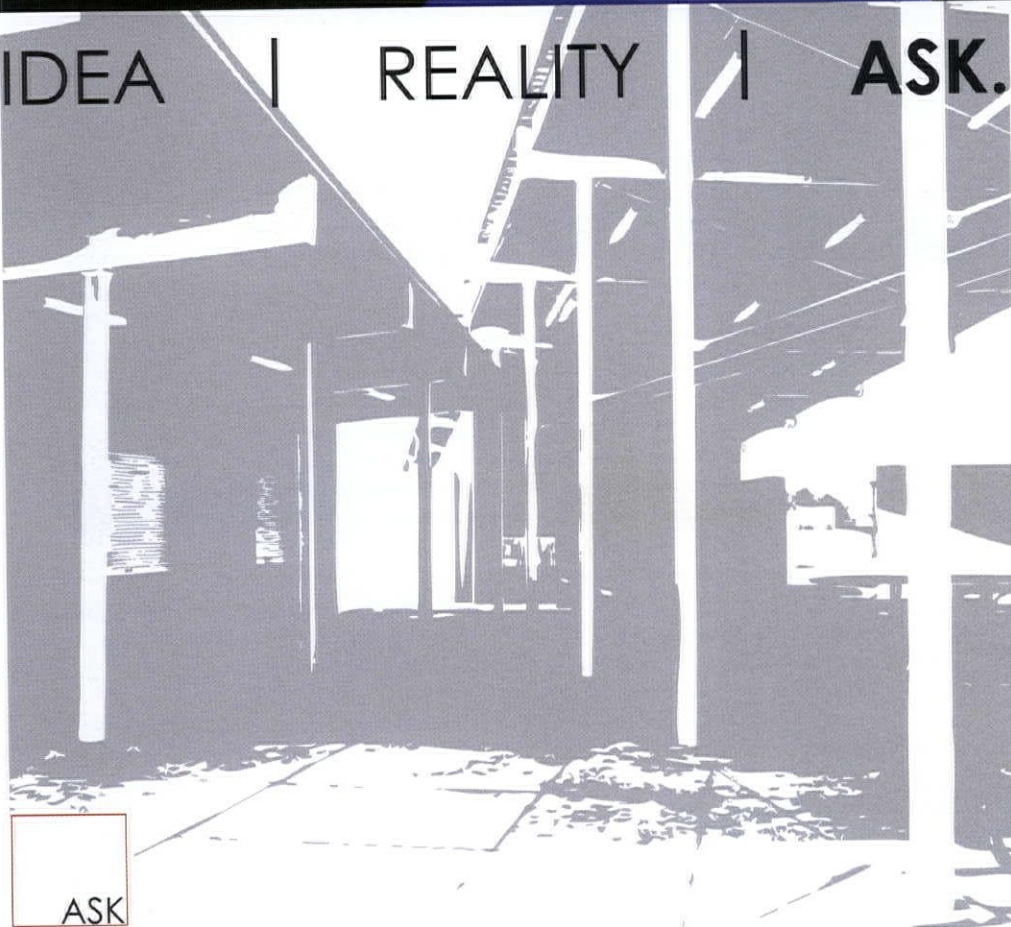
Having the company headquarters adjacent to the plant also reduces transportation, emissions and costs. Instead of a 20-minute drive from the former downtown location, employees are only steps away. "We've essentially built a corporate campus where we can continue to grow and expand," Goble says. **in**







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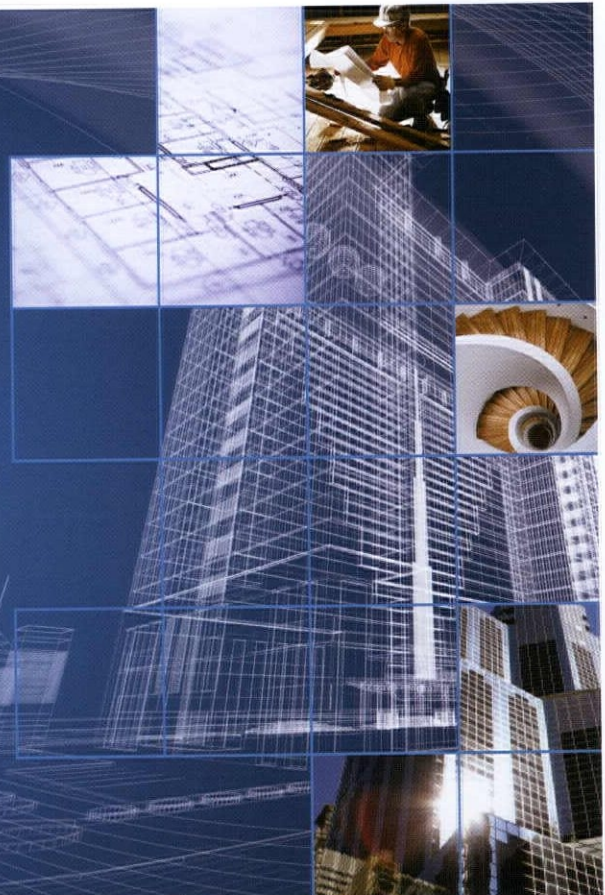
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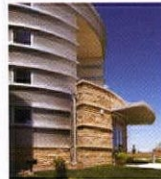
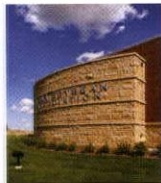
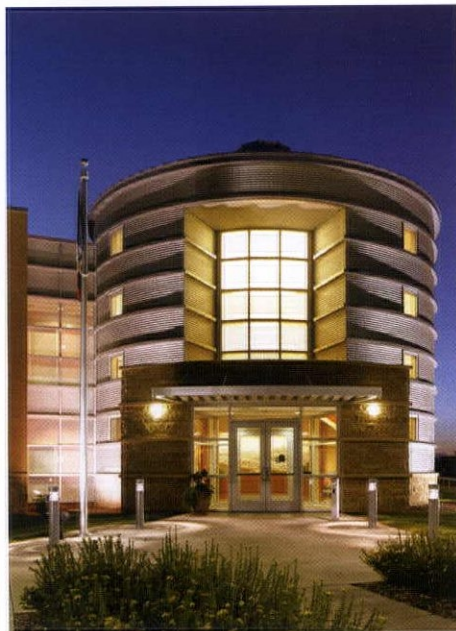
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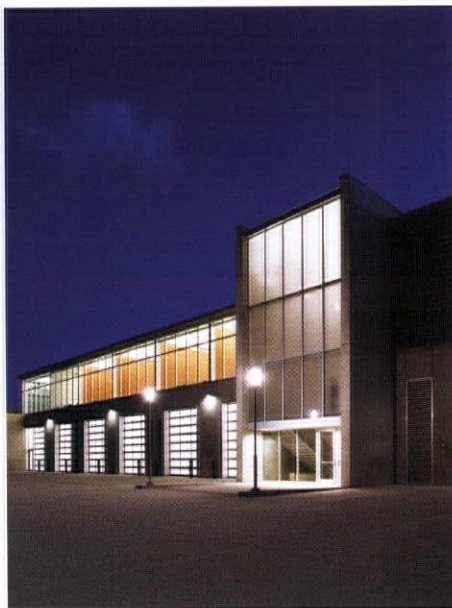
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**Project:** The University of Iowa College of Public Health

**Location:** Iowa City

**Architect:** Rohrbach Associates P.C. in association with Payette

**Contractor:** McComas Lacinia Construction

**Civil Engineer:** Shive-Hattery

**MEPT:** KJWW Engineering

**Structural Engineer:** Charles Saul Engineering

**Landscape Architect:** Confluence

**Photographer:** Rohrbach Associates P.C.

### Catching a Ride 24

**Project:** Multimodal Transportation Facility

**Location:** University of Northern Iowa, Cedar Falls

**Architect:** substance

**Contractor:** Henkel Construction

**Consultants:** Walker Parking Consultants, KJWW Engineering, CPI Daylighting

**Photographer:** Paul Cosby

### Building Character 28

**Project:** Carver-Hawkeye Arena

**Location:** Iowa City

**Architect:** Neumann Monson Architects

**General Contractor:** Knutson Construction

**Landscape Architect:** Confluence

**Structural Engineer:** M2B Engineer

**MEP:** KJWW

**Sports Architect Consultant:** HNTB Sports Architecture

**Graphics:** ZE Design

**Civil Engineer:** Shive-Hattery

**Food Service:** Bigelow

**Photographer:** Farshid Assassi

### Lab Tech 30

**Project:** Hygienic Laboratory

**Location:** Coralville

**Architect:** OPN Architects

**Contractor:** Knutson Construction

**Photographer:** Wayne Johnson, Main Street Studio

### The Architecture of Public Works 34

**Project:** Cedar Falls Public Works Complex

**Location:** Cedar Falls

**Architect:** INVISION

**MEP:** Modus

**Structural Engineer:** M2B Engineers

**LEED Consultant:** C-Wise

**Commissioning:** Michaels Engineering

**Photographer:** Cameron Campbell Integrated Studio

### Lead by Example 38

**Project:** East Side Recycling Center

**Location:** Iowa City

**Architect:** Shive-Hattery

**General Contractor:** Knutson Construction

**Photographer:** AJ Brown Imaging

### Diamond of the Prairie 40

**Project:** Diamond V Headquarters

**Location:** Cedar Rapids

**Architect:** ASK Studio

**General Contractor:** Ventor Spooner

**Structural Engineer:** Raker Rhodes Engineering

**Mechanical Engineer:** Modern Piping, Inc.

**Electrical Engineer:** Acme Electric Co.

**Landscape:** Brain Engineering, Inc.

**Photographer:** Cameron Campbell Integrated Studio

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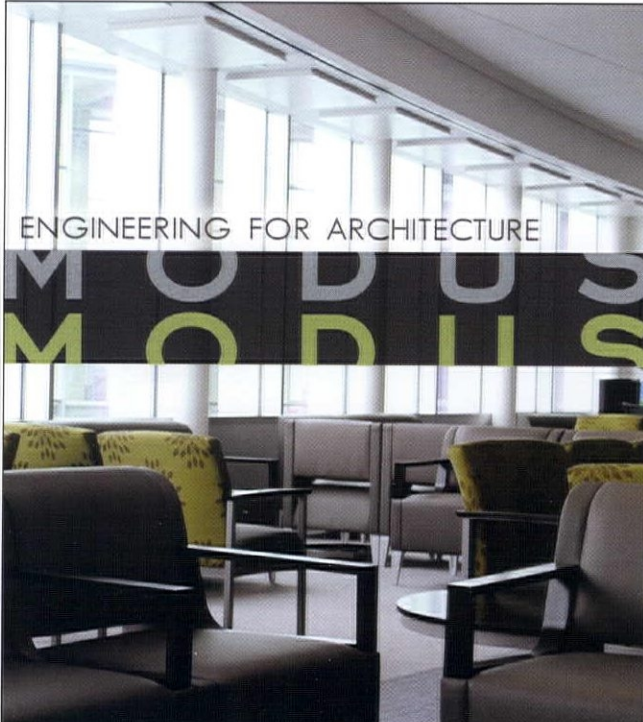
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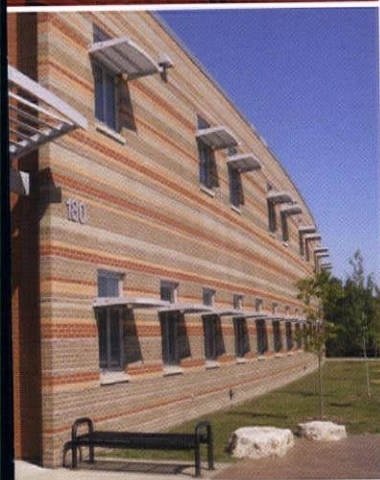
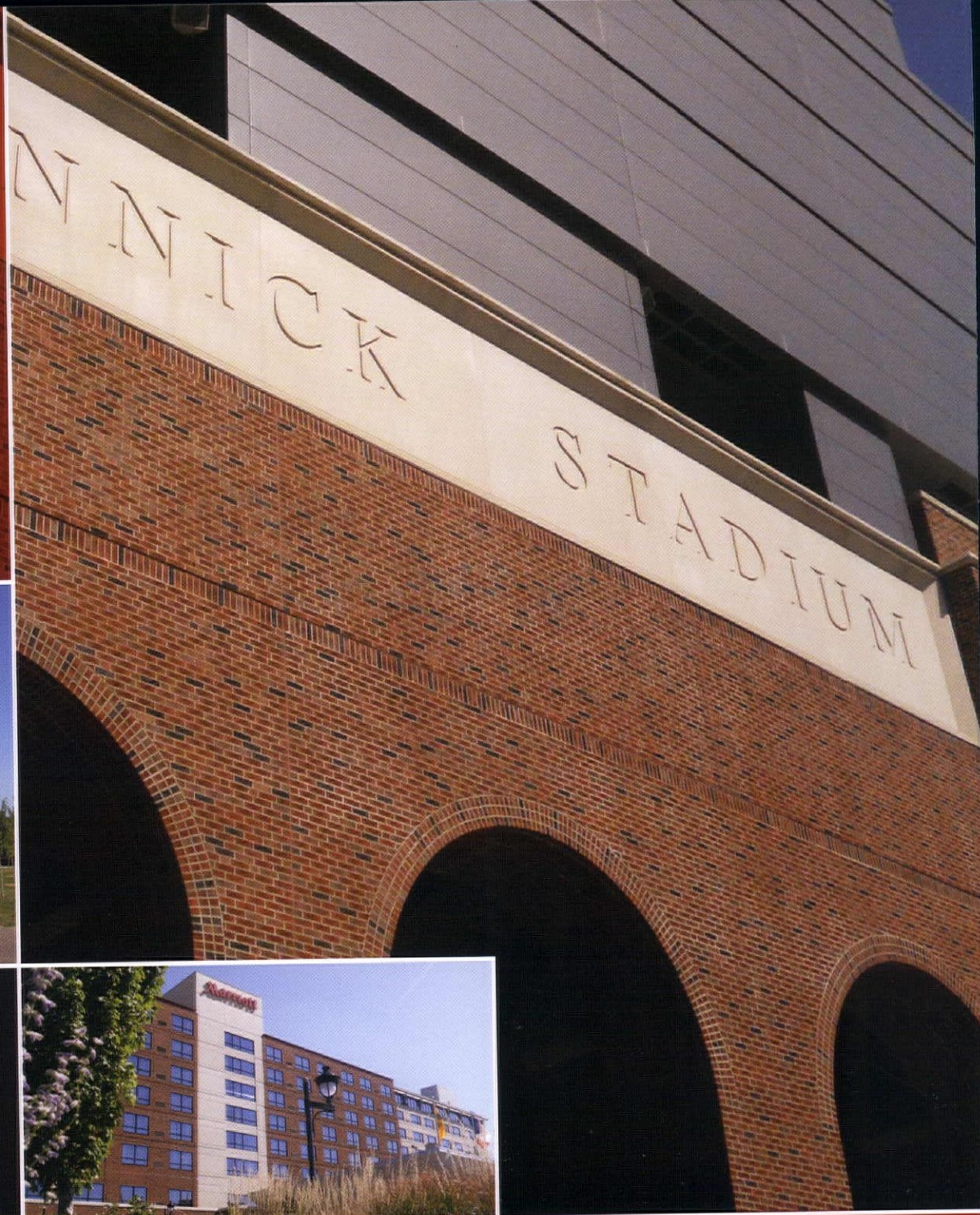
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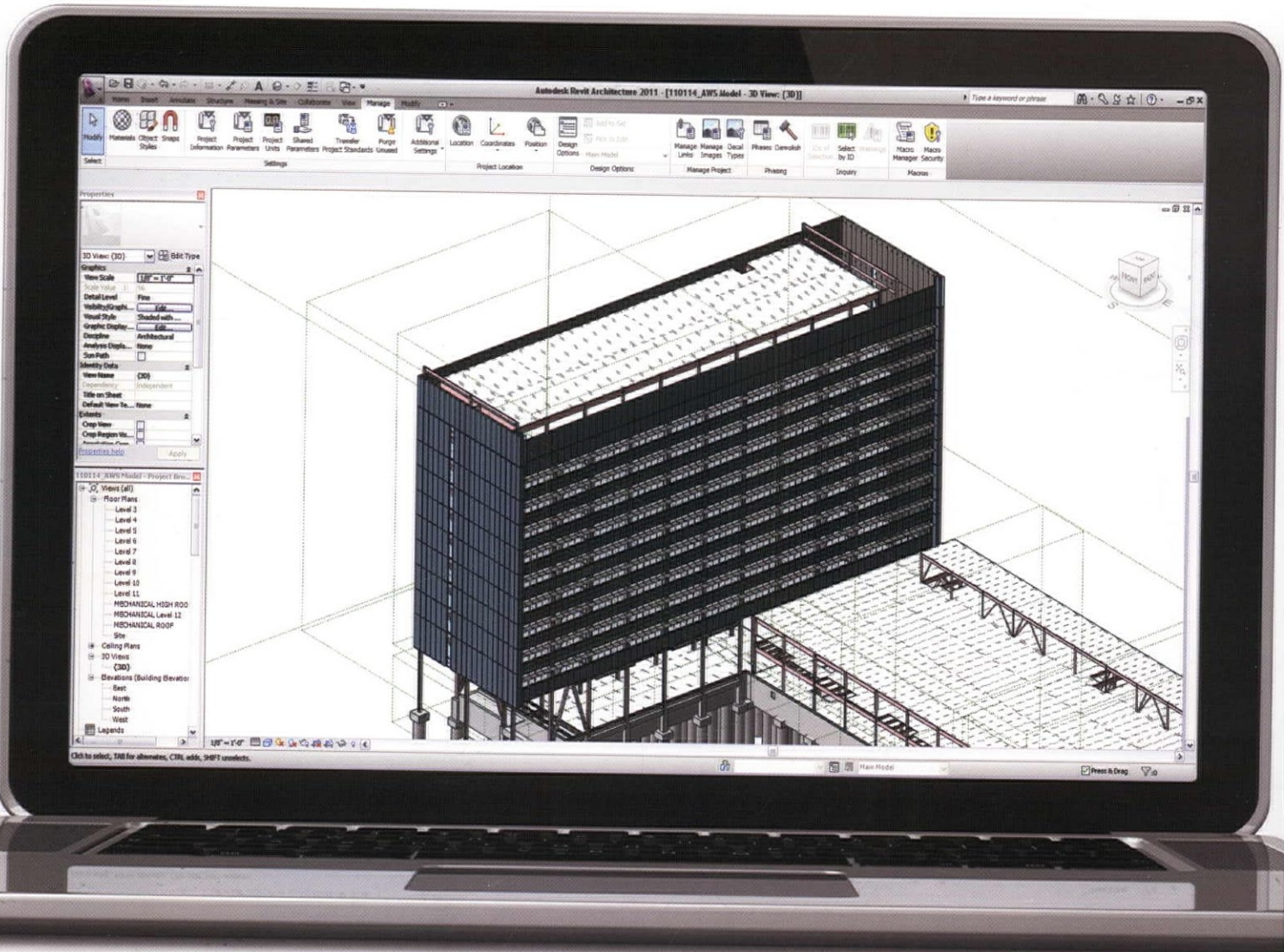
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